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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference SV02A32-LOD		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/50252	International filing date (day/month/year) 24.06.2003	Priority date (day/month/year) 09.07.2002	
International Patent Classification (IPC) or both national classification and IPC F16K7/12			
Applicant LODOLO, Alberto			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 7 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 26.01.2004	Date of completion of this report 30.08.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Hatzenbichler, C Telephone No. +49 89 2399-8912 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/50252**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

5-25 as originally filed
1, 2, 2a, 3, 4 received on 08.04.2004 with letter of 01.04.2004

Claims, Numbers

3-14 as originally filed
1, 2 received on 08.04.2004 with letter of 01.04.2004

Drawings, Sheets

1/17-17/17 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 33

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 33 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-32,34-41
	No: Claims	
Inventive step (IS)	Yes: Claims	1-32,34-41
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-32,34-41
	No: Claims	

2. Citations and explanations

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To Point III:

1. Claim 33 contains references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

To Point V:

2. Independent claim 1:

Claim 1 relates to a diaphragm valve, which comprises a valve body with inlet sleeve and outlet sleeve, a bonnet, an elastic diaphragm and means to compress the diaphragm against the surface of a valve seat.

The closest prior art is represented by document **US-A-4 319 737 (D1)** which already discloses that the inlet sleeve and the outlet sleeve of the valve body at the ends opening into the flow chamber have an elliptical or substantially elliptical cross-section.

The subject-matter of claim 1 distinguishes therefrom especially in that:

- the cross sections of the inlet sleeve and the outlet sleeve at the ends opening into the flow chamber are elongated in a direction **transverse** to the direction of flow, and in that
- the peripheral flange of the diaphragm has a **rectangular** shape, inscribing the central convex portion of the diaphragm, which consists of an element having the shape of a **sector of an ellipsoid or similar**, whose section plane is disposed in such a manner as to correspond with the flow chamber port.

Neither document D1 nor any of the other documents cited in the search report gives any indication with respect to such an arrangement as claimed and therefore the diaphragm valve of claim 1 meets the requirements of Articles 33(2) and (3) PCT.

3. Independent claim 34:

Claim 34 relates to diaphragm open/close element with a peripheral flange that has a rectangular shape and which inscribes the central convex portion of the

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diaphragm, consisting of an element shaped like a sector of an ellipsoid or similar, which is joined to said flange, disposed in the section plane of the ellipsoid or the like.

No document either by itself or in combination gives any hint with respect to the specific configuration of the element as claimed and therefore also the subject-matter of claim 34 meets the requirements of Articles 33(2) and (3) PCT.

4. Dependent claims 2-32 and 35-41:

Since these claims concern particular embodiments of the diaphragm valve according to claim 1 respectively the diaphragm open/close element according to claim 34, their subject-matters also meet the required criteria of novelty and inventive step.